

## **CHAPTER 4**

### **POINT AND NONPOINT SOURCE CHARACTERIZATION OF THE LOWER DUCK RIVER WATERSHED**

#### **4.1 Background.**

#### **4.2. Characterization of HUC-10 Subwatersheds**

- 4.2.A. 0604000301 (Duck River)**
- 4.2.B. 0604000302 (Rutherford Fork)**
- 4.2.C. 0604000303 (Big Bigby Creek)**
- 4.2.D. 0604000304 (Lick Creek)**
- 4.2.E. 0604000305 (Duck River)**
- 4.2.F. 0604000306 (Big Swan Creek)**
- 4.2.G. 0604000307 (Piney River)**
- 4.2.H. 0604000308 (Beaverdam Creek)**
- 4.2.I. 0604000309 (Hurricane Creek)**

**4.1. BACKGROUND.** This chapter is organized by HUC-10 subwatershed, and the description of each subwatershed is divided into four parts:

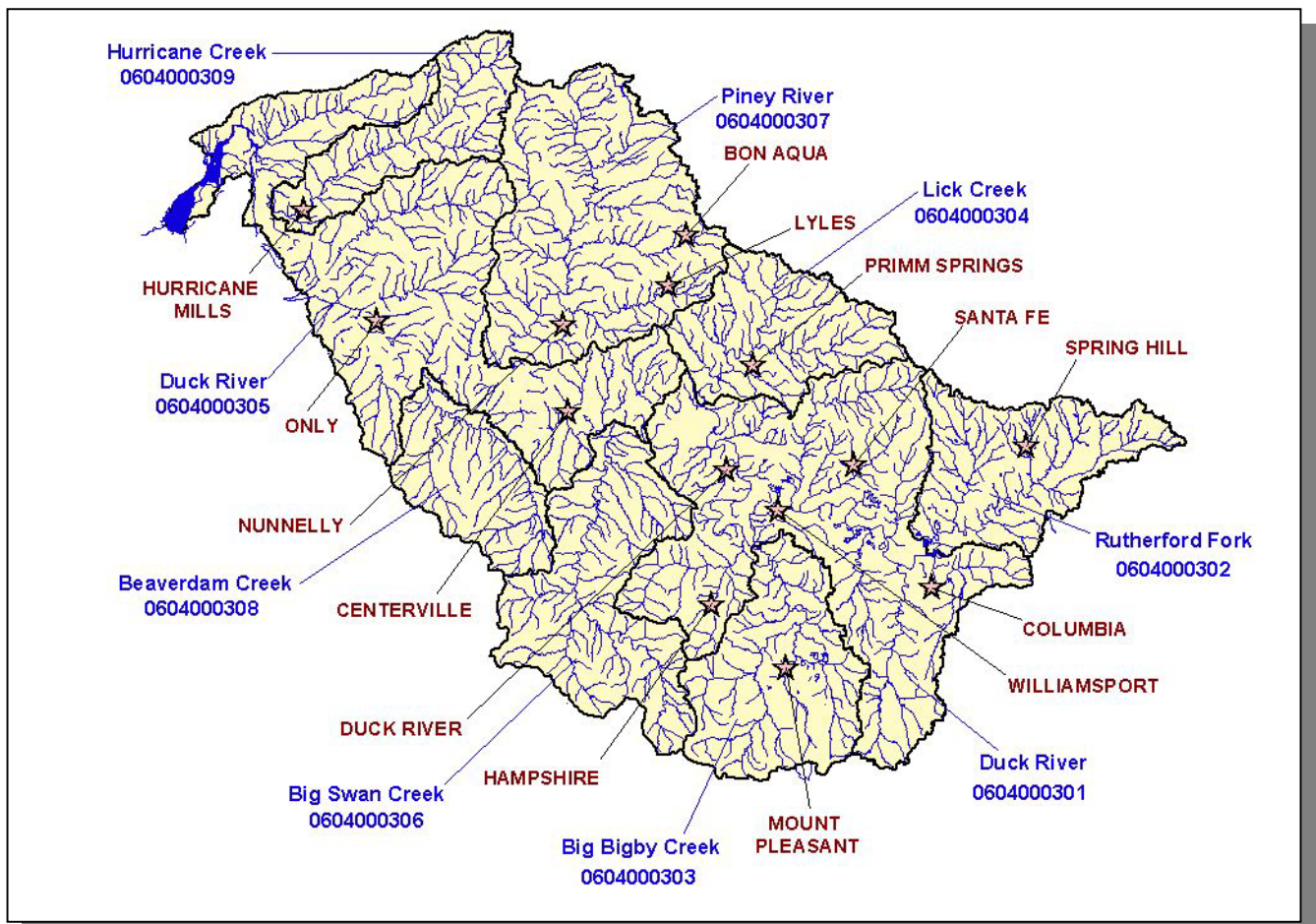
- i. General description of the subwatershed
- ii. Description of point source contributions
- ii.a. Description of facilities discharging to water bodies listed on the 2002 303(d) list
- iii. Description of nonpoint source contributions

The Lower Duck River Watershed (HUC 06040003) has been delineated into nine HUC 10-digit subwatersheds.

Information for this chapter was obtained from databases maintained by the Division of Water Pollution Control or provided in the WCS (Watershed Characterization System) data set. The WCS used was version 2.0 (developed by Tetra Tech, Inc for EPA Region 4) released in 2003.

WCS integrates with ArcView® v3.x and Spatial Analyst® v1.1 to analyze user-delineated (sub)watersheds based on hydrologically connected water bodies. Reports are generated by integrating WCS with Microsoft® Word. Land Use/Land Cover information from 1992 MRLC (Multi-Resolution Land Cover) data are calculated based on the proportion of county-based land use/land cover in user-delineated (sub)watersheds. Nonpoint source data in WCS are based on agricultural census data collected 1992–1998; nonpoint source data were reviewed by Tennessee NRCS staff.

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**Figure 4-1. The Lower Duck River Watershed is Composed of Nine USGS-Delineated Subwatersheds (10-Digit Subwatersheds).** Locations of Bon Aqua, Centerville, Columbia, Duck River, Hampshire, Hurricane Mills, Lyles, Mount Pleasant, Nunnally, Only, Primm Springs, Santa Fe, Spring Hill and Williamsport are shown for reference.

**4.2. CHARACTERIZATION OF HUC-10 SUBWATERSHEDS.** The Watershed Characterization System (WCS) software and data sets provided by EPA Region IV were used to characterize each subwatershed in the Lower Duck River Watershed.

HUC-10	HUC-12	
0604000301	060400030101 (Duck River)	060400030105 (Snow Creek)
	060400030102 (Little Bigby Creek)	060400030106 (Leipers Creek)
	060400030103 (Duck River)	060400030107 (Duck River)
	060400030104 (Knob Creek)	060400030108 (Catheys Creek)
0604000302	060400030201 (Upper Rutherford Fork)	060400030203 (Carters Creek)
	060400030202 (Lower Rutherford Fork)	
0604000303	060400030301 (Upper Big Bigby Creek)	060400030303 (Sugar Creek)
	060400030302 (Lower Big Bigby Creek)	
0604000304	060400030401 (Upper Lick Creek)	060400030402 (Lower Lick Creek)
0604000305	060400030501 (Duck River)	060400030505 (Duck River)
	060400030502 (Duck River)	060400030506 (Tumbling Creek)
	060400030503 (Duck River)	060400030507 (Blue Creek)
	060400030504 (Sugar Creek)	
0604000306	060400030601 (Upper Big Swan Creek)	060400030603 (Lower Big Swan Creek)
	060400030602 (Middle Big Swan Creek)	
0604000307	060400030701 (Upper Piney River)	060400030704 (Middle Piney River)
	060400030702 (Lower Piney River)	060400030705 (Mill Creek)
	060400030703 (Garners Creek)	
0604000308	060400030801 (Beaverdam Creek)	060400030802 (Sulpher Fork Creek)
0604000309	060400030901 (Upper Hurricane Creek)	060400030902 (Lower Hurricane Creek)

**Table 4-1. HUC-12 Drainage Areas are Nested Within HUC-10 Drainages.** NRCS worked with USGS to delineate the HUC-10 and HUC-12 drainage boundaries.